

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
700 HEINZ AVE. SUITE 200
BERKELEY, CA 94710-2737

March 4, 1993



Ms. Louise T. Lew
Code 1811
Naval Facilities Engineering Command
Western Division
900 Commodore Drive
San Bruno, California 94066-2402

Dear Ms. Lew:

DATA SUMMARY REPORT RI/FS PHASES 1 AND 2A, ALAMEDA NAVAL AIR STATION (ANAS)

The Department of Toxic Substances Control (DTSC) has reviewed the Draft Data Summary Report RI/FS Phases 1 and 2A, dated December 1, 1992. The following comments shall be addressed and incorporated in to the final Data Summary Report RI/FS Phases 1 and 2A.

GENERAL COMMENTS

1. DATA QUALITY ISSUES

Validation procedures for data collected by Canonie during the Phases 1 and 2A investigation followed the Quality Assurance Project Plan (QAPP) approved by the DTSC. The QAPP required internal data validation at the laboratory. Validation packages were prepared for two percent of the samples analyzed; however, the complete validation package was not identified as a deliverable in the Navy-Canonie contract. The data validation was therefore, not delivered and can not be retrieved without expending major financial and human resources. The end result is external validation can not be performed.

Because Canonie followed the approved QAPP, the DTSC considers the Canonie data useful for site characterization and possibly risk assessment if necessary data qualifiers are available. However, in order to increase confidence in the Canonie data, verification sampling will be required. A percentage of the surface samples at Site 1 must be recollected and analyzed. See comment #13 for details on the resampling.

2. GROUNDWATER

Groundwater gradients at ANAS have not been characterized enough to understand the direction of groundwater flow or

the influence of tides on groundwater flow. A tidal influence study should be conducted on all sites that have not been part of a previous tidal investigation.

3. **SITE 1 AND SITE 2**

Data for these sites were also collected under Phases 5 and 6, the Solid Waste Water Quality Assessment Test (SWAT). The objective of the SWAT is to determine if contaminated groundwater is moving off site. Phases 1 and 2 are the Remedial Investigations for Sites 1 and 2. The purpose of the remedial investigations is to characterize the site, in order to design remedial alternatives and conduct risk assessments. Different sets of data have been collected for the various phases and no comprehensive report is available that condenses all the information. This makes characterization of sites 1 and 2 difficult. In order to complete the remedial investigation, all data needs to be summarized in a single document. Data collected in phases 5 and 6 should be summarized in the Data Summary Report. The Data Summary Report should include a short discussion of the data, data summary tables and maps. This will allow a complete assessment of the contamination at Sites 1 and 2. Condensing the information into a single document will not only aid project managers in their review, but will also provide the public with a definitive document to review.

SPECIFIC COMMENTS

4. **SECTIONS 3.2 AND 3.3**

The DTSC would like to remind Navy that preliminary comparison levels shall not be used as a reference point for determining the need for further investigation or setting remediation goals at a site. The DTSC considers preliminary comparison levels as only useful for initiating discussion and for qualifying the level of contamination at a site.

5. **SECTION 3.2, PAGE 3-2, FIRST PARAGRAPH**

The preliminary comparison levels identified in the following pages seem to be based on human health risks exclusively. Environmental receptors should also be considered in the comparison levels. Environmental receptors are often more sensitive and would result in lowering the preliminary comparison levels.

6. **SECTION 3.2, PAGE 3-2, FIRST BULLET ITEM**

Please reference the application, by the Regional Water Quality Control Board, of 1 milligram per kilogram (mg/kg) for total Volatile Organic Chemicals (VOCs) and 10 mg/kg for total Semivolatile Organic Chemicals (SVOCs) as the

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remediation goals in vadose zone soil for sites in the Bay Area where groundwater is considered as potable drinking water supply.

7. **SECTION 3.2, PAGE 3-2, THIRD BULLET ITEM**

Please reference the EPA guidance that identifies 1 mg/kg as a level that may trigger additional investigation at any site.

8. **SECTION 4.0, PAGE 4-1**

This section should include a discussion of the validations methods described in the QAPP.

9. **SECTION 5.0 SITE 1 - 1943-1956 DISPOSAL AREA**

Because Navy Public Works Department employed open burning as the primary disposal method during the early 1950's, the presence of dioxens must be investigated at the extreme northwest corner of the disposal area and along the landfill's western edge.

10. **SECTION 5.0 SITE 1 - 1943-1956 DISPOSAL AREA**

This section should include a summary of data collected in the Phase 5 and 6 investigation. Conclusions on the completeness of information on the disposal area cannot be made without information from the other investigation.

11. **SECTION 5.5.1 SITE GEOLOGY/HYDROGEOLOGY**

The extent of the clay member of the holocene bay mud unit underlying 1943-1956 landfill is unknown. Geologic Cross Section A - A' in the Phases 5 and 6 SWAT Report show the clay member of the holocene bay mud unit as non-continuous. The holocene bay mud unit therefore, can not be characterized as a continuous aquitard. More geologic investigation is needed to better define the extent of the clay member of the holocene bay mud under Site 1.

12. **SECTION 5.5.1 SITE GEOLOGY/HYDROGEOLOGY**

The use of the Cone Penetrometer Test (CPT), as proposed by Navy on February 3, 1993, will add to the information on the extent of the clay member of the holocene bay mud. Two to three ground-water well clusters need to be installed east of the 1943-1956 land fill boundary defined in the Phases 5 and 6 SWAT report. This will provide information on the holocene bay mud and on the groundwater quality along the eastern margin or the land fill. If we are still unable to determine whether or not communication exist between the two water bearing zones, pumping tests may be required.

13. SECTION 5.5.2 ANALYTICAL RESULTS - SURFACE SOIL SAMPLING

Because of the lack of fully validated surface samples, confirmatory sampling is required for surface soils at Site 1. Ten random samples must be collected at locations where there was no detection of semivolatile organic compounds, pesticides, PCB compounds, TRPH, and total organic carbon.

14. SECTION 5.5.2 ANALYTICAL RESULTS - SURFACE SOIL SAMPLING

Surface soil contamination is concentrated in the triangular area west of Runway 13-31. Another 200 foot grid sampling event should occur within this area. Sampling locations should be between the points already sampled by Canonie. This would provide sampling locations every 100 feet. Conducting surface sampling in this area will augment the data already gathered in the area and provide a fully validated data set. Soil samples collected in or near the burn area must be analyzed for dioxens.

15. SECTION 5.6 SUMMARY AND CONCLUSIONS

Prior to concluding that sufficient soil data have been collected the Navy must determine that adequate data is available for completing the human health and environmental risk assessments and for future remedial design.

16. SECTION 5.6 SUMMARY AND CONCLUSIONS

The groundwater under the site has not been fully characterized. More wells which are screened in the second water bearing zones are required. Two to three well clusters are needed along the eastern and southern boundaries of the disposal cells as shown in Figures 8-2 and 8-4 of the Phases 5 & 6 SWAT Report.

17. SECTION 6.0 SITE 2 - WEST BEACH LANDFILL

Very little sampling was conducted in this phase of analysis at Site 2. This section should also include a summary of data collected in the Phases 5 and 6 investigation. Conclusions on the completeness of information on the disposal area cannot be made without information from the other investigation.

18. SECTION 6.5.1 SITE GEOLOGY/HYDROGEOLOGY

More data is needed on the occurrence of the clay member of the holocene bay mud in the south west portion of Site 2.

19. **SECTION 6.6 SUMMARY AND CONCLUSIONS**

Please support the statement that the PAHs detected in the surface sample at WB-3 may be natural in origin.

20. **SECTION 6.6 SUMMARY AND CONCLUSIONS**

Conclusions should also be made on the completeness of groundwater data collected at Site 2. More information is needed on the quality of the second water bearing zone along the southern margin of the West Beach Landfill.

21. **SECTION 7.0 SITE 3 - AREA 97, ABANDONED FUEL STORAGE AREA**

Both the Kennedy Engineers and the Wahler Associates investigations found contamination associated with the storm sewers and sanitary sewers. A comparison of the soil gas survey with the storm sewers shows a possible relationship between the two. The storm sewers and the fill material surrounding the storm sewers should be investigated as a possible conduit of contamination.

22. **SECTION 7.5.2 SUMMARY AND CONCLUSION - SOILS**

Because none of Canonie's soil samples were collected from the areas where elevated soil gas levels were found, Navy cannot conclude that with the exception of TRPH, sufficient soil data have been collected for the RI/FS evaluation.

23. **SECTION 7.5.2 SUMMARY AND CONCLUSION - GROUNDWATER**

The groundwater wells evaluated in the Canonie investigation have no relationship with the plume identified by soil gas survey. Therefore, conclusions can not be made as to the presence of VOCs, SVOCs, and EDBs. Additional groundwater wells are necessary to evaluate VOCs, SVOCs, EDBs, and TPH in the groundwater to the west and northwest.

24. **SECTION 7.5.2 SUMMARY AND CONCLUSION - GROUNDWATER**

Wells installed during previous investigations should be located and their integrity determined. Wells that may be useful to this investigation are: OW-1, OW-2, OW-3, OW-6, OW-14, OW-16, OW-23, OW-25, WA-7, WA-8, and WA-9.

25. **SECTION 8.5.2 GROUNDWATER, PAGE 8-9, LAST PARAGRAPH**

Please elaborate on what is meant by the statement; "12 of these metals have an extreme upper concentration that can be found in typical groundwater samples; with the exception of vanadium, the concentrations at Site 4 are within those extreme upper limits."

26. **SECTION 9.1 SITE DESCRIPTION AND BACKGROUND**

Two waste oil tanks are thought to be located at Site 7C, the Service Station; however, their exact location is unknown. These tanks should be located and a determination made as to if they are sources of contamination.

27. **SECTION 10.5.1 SUMMARY AND CONCLUSIONS - SOILS**

Methylene chloride and acetone were detected in all soil borings. Toluene was also a prevalent contaminant. The distribution of VOCs may indicate wide spread, low level contamination at Site 9. The Department does not agree that sufficient VOC data have been collected for the RI/FS evaluation. The source of the contamination is unknown and because the distribution of sampling points, VOC levels at other areas of Site 9 are unknown. The Navy should conduct a soil gas survey in order to identify high levels of VOCs. Soil sampling may be necessary after the soil gas survey in order to better characterize the extent of VOC contamination at Site 9.

28. **SECTION 12.5.1 SUMMARY AND CONCLUSIONS - SOILS**

The highest level of contamination at Site 13 is found at BOR-9. Further soil sampling is required near the vicinity of BOR-9 in order to better characterize the extent of contamination and possibly identify a source area.

29. **SECTION 12.5.1 SUMMARY AND CONCLUSIONS - GROUNDWATER**

An additional groundwater well is necessary east of BOR-9 in order to further characterize groundwater contamination near that boring.

30. **SECTION 14.4.2.1 VOLATILE ORGANIC COMPOUNDS**

Detection limits for methylene chloride and acetone were 1400 μ /kg for soil sample MWD13-2. Because of the high detection limit this area should be resampled and reanalyzed with lower detection limits.

31. **SECTION 14.5.1 SUMMARY AND CONCLUSIONS - SOILS**

Because of the high detection limit for methylene chloride and acetone, the concentration of toluene, and the levels of SVOCs, more soil sampling is required near boring MWD13-2.

32. **SECTION 16.1.1 HUMAN RECEPTORS**

Please explain why near by residents were not considered human receptors when residential neighborhoods are adjacent to the eastern boundary of the base.

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33. SECTION 16.1.1 TERRESTRIAL ORGANISMS

Is the wetland habitat at Site 2 considered a terrestrial or marine habitat?

If you have any questions on these comments or require further assistance, please call me at (510) 540-3809.

Sincerely,



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Associate Hazardous Materials
Specialist
Site Mitigation Branch

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